

## REMARKS

Claims 4, 5, 7, 10, 14, 17 and 18 are pending in the present application. Claims 1-3, 6, 8, 9, 11-13, 15, 16 and 19-21 were previously canceled.

Applicant respectfully requests reconsideration of the application in view of the remarks appearing below, which Applicant believes shows that the application is in condition for allowance.

### Rejections Under 35 U.S.C. § 103(a)

#### *Hawn/Lur/Kitamura*

Claims 10 and 17 stand rejected under 35 U.S.C § 103(a) as being obvious in view of a combination of the Hawn IBM Technical Disclosure Bulletin (hereinafter “Hawn”), U.S. Patent No. 6,743,721 to Lur et al. (hereinafter “Lur”), and U.S. Patent No. 5,508,879 to Kitamura et al. (hereinafter “Kitamura”). The USPTO asserts that Hawn teaches (1) a system for discharging unwanted potentials on a dielectric surface and (2) grounding a conductive brush which contacts the dielectric surface. The USPTO further asserts that Lur teaches that a wafer comprises dielectric surfaces and silicon surfaces. Hawn further teaches electrically grounding the apparatus with an electrically conductive path extending from the article to the ground. Applicant respectfully disagrees.

The Hawn Bulletin describes removing unwanted electrostatic charges from photoconductive plates using a soft grounded brush with multiple conductive points that come into intimate contact with the surface being discharged.

Lur discloses a microelectronics wafer having a dielectric surface.

Kitamura discloses a charge removal brush that includes a number of long, conductive filamentous elements for removing charges from an object when the charge removal brush comes in contact with the object, is disclosed.

Turning now to the rejected claims, independent claim 10 as previously presented includes the limitation of “cleaning said surface of said microelectronics wafer with a conductive rotating wafer-cleaning member so as to remove at least some of the surface contaminants, and so as to simultaneously create an electrical ground path between said surface and an electrical ground through said conductive rotating wafer-cleaning member.” [Emphasis added.] Similarly, independent claim 17 as previously presented includes the limitation of “a conductive rotating

wafer-cleaning member operatively configured to engage said surface of microelectronics wafer in said wafer cleaning region so as to remove contaminants from said surface and provide part of a grounding path between said microelectronics wafer and said electrical ground for removing electrical charge from said microelectronics wafer.” [Emphasis added.]

Surface contaminants include “particles, mobile ions and trace metals, among others, that are remnants of the various processes used to make the articles or are otherwise present in the manufacturing environment.” (§0002) This is distinguishable from electrostatic charge. It is well understood that discharge of surface potential involves draining off excess electrons, which are quantum entities that may not be physically translated merely by brushing with macroscopic fibers. Applicant respectfully submits that surface contaminants would be understood by one having ordinary skill in the arts to encompass larger particles subject to more classical physics. Hawn does not mention surface contaminants. Kitamura teaches removal of excess or extraneous toner particles (Kitamura, Col. 7, L. 22-24), but these are particles intentionally introduced to the surface and are highly uniform in size and surface chemistry, and are not a result of the manufacturing process or manufacturing environment. Thus neither Hawn nor Kitamura teach removal of surface contaminants. Therefore the Hawn/Kitamura combination does not teach all of the essential elements of claim 10 or claim 17.

The USPTO asserts that it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the brush of Hawn with the rotating brush of Kitamura so that the brush will be capable of effectively removing charges from the surface of the wafer, and so the brush will provide an efficient cleaning operation (Kitamura, Col. 5, L. 36-42), and that a rotating brush will allow the brush to remove contaminants more efficiently than a stationary brush. First, Applicant respectfully disagrees with this motivation for combining the references, especially in light of the fact that neither reference involves removal of surface contaminants, merely surface electrostatic charge. Second, Applicant does not believe that it is at all obvious that a brush configuration that may be effective and efficient, however those terms may be defined in this circumstance, at removal of electrostatic charge will be equally effective or efficient at removal of surface contaminants.

A statement that modifications of the prior art to meet the claimed invention would have been “well within the ordinary skill of the art at the time the claimed invention was made” because the references relied upon teach that all aspects of the claimed invention were individually known in the art is not sufficient to

establish a *prima facie* case of obviousness without some objective reason to combine the teachings of the references.

MPEP 2143.01(IV), citing Ex parte Levengood, 28 USPQ2d 1300 (Bd. Pat. App. & Inter. 1993).

Applicant respectfully requests the USPTO provide references which support the asserted motivation for combining and modifying the teachings of electrostatic grounding of Hawn and Kitamura, such as the assertion of effectiveness and efficiency for a rotating brush, to arrive at the claimed obviousness of the surface contaminant removal of Applicant's claims.

Hawn and Kitamura are directed toward removal of unwanted surface charge, and not to removal of surface contaminants, and the differences between the nature of static charge and surface contaminants make the motivations or suggestions for modifying the combined references nonsensical. For at least the foregoing reasons, Applicant respectfully requests that the Examiner withdraw the present rejection.

***Hawn/Kitamura/ConductivePlastics.com***

Claims 4 and 5, 7, 14, and 18 stand rejected under 35 U.S.C § 103(a) as being obvious in view of a combination of the Hawn and Kitamura references, each discussed above, and further in view of Conductiveplastics.com. Applicant respectfully disagrees.

The Hawn Bulletin, Lur et al., and Kitamura references are as described above relative to the obviousness-type rejection.

The Conductiveplastics.com Webpage discloses a conductive polyurethane foam touted for its cleanliness, i.e., lack of sloughing and particulation.

As discussed above relative to the obviousness-type rejection in view of the Hawn/Lur/Kitamura combination, Applicant believes that at least the teachings of the combination and the proposed motivation for modifying these teachings to read upon the claim limitations is improper relative to claims 10 and 17. The additional combination with the Conductiveplastics.com Webpage, in Applicant's view, does not remedy the shortcomings of this improper combination. "If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)." MPEP §2143.03. Consequently, it is Applicant's position that the Hawn/Lur/Kitamura/Conductiveplastics.com combination does not render claims 18, 14, 7, 4 or 5 obvious.

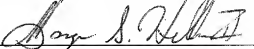
For at least this reason, Applicant respectfully requests that the Examiner withdraw the present rejection.

**CONCLUSION**

In view of the foregoing, Applicant submits that claims 4, 5, 7, 10, 14, 17 and 18 are in condition for allowance. Therefore, prompt issuance of a Notice of Allowance is respectfully solicited. If any issues remain, the Examiner is encouraged to call the undersigned attorney at the number listed below.

Respectfully submitted,

INTERNATIONAL BUSINESS MACHINES CORP.

By:   
Morgan S. Heller II  
Registration No. 44,756

DOWNS RACHLIN MARTIN PLLC  
Tel: (802) 863-2375  
Attorneys for Assignee